

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-65. (Cancelled)

66. (Currently Amended) A networked electronic ordnance system, comprising:
a plurality of pyrotechnic devices connected by a network, each pyrotechnic device comprising an initiator and a logic device associated with a unique identifier;

a bus controller connected to said plurality of pyrotechnic devices through said network, said bus controller being structured to first transmit a digital arming command onto the network, the digital arming command using one or more of the unique identifiers, thereafter alter an analog condition of the network to a firing condition, and thereafter transmit a digital firing command onto the network, the digital firing command using one or more of the unique identifiers; and

~~the logic device in each of the pyrotechnic devices being structured to store activation energy in the associated pyrotechnic device~~ if the digital arming command includes the unique identifier of the logic device and

release the stored activation energy into the respective initiator ~~of its associated pyrotechnic device~~ only if both (1) the analog condition of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device.

67. (Currently Amended) The networked electronic ordnance system of claim 66, wherein ~~the means for altering~~ the analog condition of the network can be altered by altering ~~alters one or more of the following network conditions:~~ voltage level, frequency, or modulation depth.

68-87. (Cancelled)

88. (Withdrawn) A networked electronic ordnance system, comprising:

- a plurality of pyrotechnic devices connected by a network, each pyrotechnic device comprising an initiator and a logic device associated with a unique identifier;
- a bus controller connected to said plurality of pyrotechnic devices through said network, said bus controller being structured to first transmit a digital arming command onto the network, the digital arming command using one or more of the unique identifiers, thereafter alter a frequency of the network to a firing condition, and thereafter transmit a digital firing command onto the network, the digital firing command using one or more of the unique identifiers; and
- the logic device in each of the pyrotechnic devices being structured to
 - store activation energy in the associated pyrotechnic device if the digital arming command includes the unique identifier of the logic device; and
 - release the stored activation energy into the initiator of its associated pyrotechnic device only if both (1) the frequency of the network has been modified

to the firing condition and (2) the digital firing command includes the unique identifier of the logic device.

89. (Withdrawn) A networked electronic ordnance system, comprising:

a plurality of pyrotechnic devices connected by a network, each pyrotechnic device comprising an initiator and a logic device associated with a unique identifier;

a bus controller connected to said plurality of pyrotechnic devices through said network, said bus controller being structured to first transmit a digital arming command onto the network, the digital arming command using one or more of the unique identifiers, thereafter alter a modulation depth of the network to a firing condition, and thereafter transmit a digital firing command onto the network, the digital firing command using one or more of the unique identifiers; and

the logic device in each of the pyrotechnic devices being structured to

store activation energy in the associated pyrotechnic device if the digital arming command includes, the unique identifier of the logic device; and

release the stored activation energy into the initiator of its associated pyrotechnic device only if both (1) the modulation depth of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device.

90. (Currently Amended) A networked electronic ordnance system, comprising:

a plurality of pyrotechnic devices connected by a network, each pyrotechnic device comprising an initiator and a logic device associated with a unique identifier;

a bus controller connected to said plurality of pyrotechnic devices through said network, said bus controller being structured to (1) transmit a digital arming command onto the network, the digital arming command using one or more of the unique identifiers, (2) alter an analog condition of the network to a firing condition, and (3) transmit a digital firing command onto the network, the digital firing command using one or more of the unique identifiers; and

~~the logic device in each of the pyrotechnic devices being structured to~~

~~store activation energy in the associated pyrotechnic device~~ if the digital arming command includes the unique identifier of the logic device;

release the stored activation energy into the respective initiator ~~of its associated pyrotechnic device~~ only if both (1) the analog condition of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device; and

discharge the stored activation energy if a digital disarming command includes the unique identifier of the logic device.

91. (New) A networked electronic ordnance system, comprising:

a plurality of pyrotechnic devices connected by a network, at least one comprising an initiator, a logic device having a unique identifier and a bus interface; and

a bus controller connected to the plurality of pyrotechnic devices through said network for (1) transmitting onto the network digital arming commands using at least one unique identifier, (2) altering an analog condition of the network to a firing condition, and (3) transmitting onto the network digital firing commands using at least one unique identifier,

wherein the at least one pyrotechnic device stores activation energy upon receiving a digital arming command that includes the unique identifier of its logic device, and, once armed, releases the stored activation energy into its initiator once both (1) the bus interface senses that the analog condition of the network has been modified to the firing condition and (2) the logic device detects a digital firing command is received that includes the unique identifier of its logic device.

92. (New) The networked electronic ordnance system of claim 91, wherein an analog condition of the network can be its voltage level, modulation depth, or frequency.

93. (New) The networked electronic ordnance system of claim 91, wherein the at least one pyrotechnic device discharges the stored activation energy when a digital disarming command is received that includes the unique identifier of its logic device.

94. (New) The networked electronic ordnance system of claim 91, wherein the plurality of pyrotechnic devices are integrated into a missile.

95. (New) The networked electronic ordnance system of claim 91, wherein the plurality of pyrotechnic devices are integrated into an aircraft.

96. (New) The networked electronic ordnance system of claim 93, wherein after a disarming command has been acted upon in the pyrotechnic device, the pyrotechnic device responds to the bus controller by transmitting its disarmed status over the network.

97. (New) The networked electronic ordnance system of claim 91, wherein the bus controller generates the digital arming command.

98. (New) The networked electronic ordnance system of claim 91, wherein after an arming command has been acted upon in the pyrotechnic device, the pyrotechnic device responds to the bus controller by transmitting its armed status over the network.

99. (New) The networked electronic ordnance system of claim 91, wherein the bus controller periodically queries pyrotechnic devices at regular intervals to confirm that firing capability in the device remains intact.

100. (New) The networked electronic ordnance system of claim 91, wherein the bus controller determines network status by transmitting a network signal to one or

more pyrotechnic devices and then sensing whether the signal is echoed back in response.

101. (New) A networked electronic ordnance system, comprising:
- a plurality of pyrotechnic devices connected by a network, at least one comprising an initiator and a logic device having a unique identifier; and
- a bus controller connected to the plurality of pyrotechnic devices through said network for (1) transmitting onto the network digital arming commands using a least one unique identifier, (2) transmitting onto the network digital disarming commands using at least one unique identifier, and (3) transmitting onto the network digital firing commands using at least one unique identifier,
- wherein the at least one pyrotechnic device stores activation energy upon receiving a digital arming command that includes the unique identifier of its logic device, and
- (A) releases the stored activation energy into its initiator when a digital firing command is received that includes the unique identifier of its logic device, and
- (B) discharges the stored activation energy when a digital disarming command is received that includes the unique identifier of its logic device.

102. (New) The networked electronic ordnance system of claim 101, wherein the plurality of pyrotechnic devices are integrated into a missile.

103. (New) The networked electronic ordnance system of claim 101, wherein the at least one pyrotechnic device includes an energy reserve capacitor for storing activation energy in the device, and the capacitor charges from current transmitted in the network upon receiving the digital arming command.

104. (New) The networked electronic ordnance system of claim 101, wherein after a disarming command has been acted upon in the pyrotechnic device, the pyrotechnic device responds to the bus controller by transmitting its disarmed status over the network.

105. (New) The networked electronic ordnance system of claim 101, wherein the bus controller periodically queries pyrotechnic devices at regular intervals to confirm that firing capability in the device remains intact.

106. (New) The networked electronic ordnance system of claim 101, wherein the bus controller determines network status by transmitting a network signal to one or more pyrotechnic devices and then sensing whether the signal is echoed back in response.